

App 6

Appendix VI. Vegetation and Wildlife Tables

This appendix contains tables referenced in the "Vegetation and Wildlife" section of Chapter 3, "Affected Environment" and Chapter 4, "Environmental Consequences."

VI-2

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Table A

The Scientific and Common Names of Plant Species
Referred to in the Report Text

Common Names	Scientific Names
Alkali bulrush	<u>Scirpus olneyi</u>
Alkali heath	<u>Frankenia grandiflora</u> var. <u>campestris</u>
Alkali weed	<u>Cressa truxellensis</u>
Arroyo willow	<u>Salix lasiolepis</u>
Asparagus	<u>Asparagus</u> sp.
Baltic rush	<u>Juncus balticus</u>
Bigleaf maple	<u>Acer macrophyllum</u>
Blackberry	<u>Rubus procerus</u>
Black oak	<u>Quercus kelloggii</u>
Black sage	<u>Salvia mellifera</u>
Black walnut	<u>Juglans nigra</u>
Bladderpod	<u>Isomeris arborea</u>
Bladderwort	<u>Utricularia</u> sp.
Blue oak	<u>Quercus douglasii</u>
Blue wild rye	<u>Elymus glaucus</u>
Boisduvalia	<u>Boisduvalia</u> sp.
Boxelder	<u>Acer negundo</u> ssp. <u>californicum</u>
Brome	<u>Bromus</u> sp.
Brass buttons	<u>Cotula coronopifolia</u>
Brodiaea	<u>Brodiaea</u> , <u>Dichelostemma</u> , and <u>Triteleia</u> sp.
Buckbrush	<u>Ceanothus cuneatus</u>
Buckeye	<u>Aesculus californica</u>
Bulrush	<u>Scirpus acutus</u>
Burrow bush	<u>Hymenochlea salsola</u>
Burr reed	<u>Sparganium</u> sp.
Bush monkeyflower	<u>Diplacus aurantiacus</u>
Buttonwillow	<u>Cephalanthus occidentalis</u>
California bay	<u>Umbellularia californica</u>
California buckwheat	<u>Eriogonum fasciculatum</u>
California cordgrass	<u>Spartina foliosa</u>
California melic	<u>Melica californica</u>
California sagebrush	<u>Artemisia californica</u>
Canyon live oak	<u>Quercus chrysolepis</u>
Cat's ear	<u>Hypochoeris glabra</u>
Cattails	<u>Typha latifolia</u> and <u>T. angustifolia</u>
Chain fern	<u>Woodwardia fimbriata</u>
Chamise	<u>Adenostoma fasciculatum</u>
Clematis	<u>Clematis</u> sp.
Clover	<u>Trifolium</u> sp.
Cocklebur	<u>Xanthium strumarium</u> var. <u>canadense</u>
Coffeeberry	<u>Rhamnus californicus</u> ssp. <u>tomentella</u>

Common reed grass
Cottonwood
Creek dogwood
Deerbrush
Digger pine
Douglas-fir
Downingia
Duckweed
Elderberry
Elodea
Fat hen
Ferris goldfield
Fescue
Fiddleneck
Filaree
Flannel bush
Fleshy jaumea
Flowering dogwood
Foxtail barley
Giant reed
Goldfields
Gooding's willow
Gooseberry
Green-leaved manzanita
Hairgrass
Hazelnut
Horned pondweed
Horsetail
Horseweed
Incense cedar
Interior live oak
Iodine bush
Knit grass
Lady fern
Low barley
Lupine
Manzanita
Marsh grindelia
Marsh pennywort
Meadowfoam
Mistletoe
Mountain mahogany
Mousetail
Mugwort
Mulefat
Mustard
Navarretia
Nettles
Nodding needlegrass

Phragmites communis var. berlandieri
Populus fremontii
Cornus stolonifera
Ceanothus integerrimus
Pinus sabiniana
Pseudotsuga menziesii
Downingia sp.
Lemna minor
Sambucus caerulea
Elodea canadensis
Atriplex patula
Lasthenia ferrisiae
Festuca sp.
Amsinckia intermedia and A. menziesii
Erodium brachycarpum, E. botrys, and E. cicutarium
Fremontodendron californicum
Jaumea carnosa
Cornus nuttallii
Hordeum leporinum
Arundo donax
Lasthenia californica
Salix gooddingii
Ribes sp.
Arctostaphylos patula
Deschampsia danthonioides
Corylus cornuta var. californica
Zanichellia palustris
Equisetum sp.
Conyza canadensis
Calocedrus decurrens
Quercus wislizenii
Allenrolfea occidentalis
Gastridium ventricosum
Athyrium filix-femina
Hordeum depressum
Lupinus sp.
Arctostaphylos sp.
Grindelia humilis
Hydrocotyle verticillata
Limnanthes sp.
Phoradendron villosum
Cercocarpus betuloides
Myoseris minimus
Artemisia douglasiana
Baccharis viminea
Brassica nigra and B. geniculata
Navarretia sp.
Urtica sp.
Stipa lepida

Oat
Oregon ash
Owl's clover
Parry manzanita
Pepper grass
Pickleweed
Pine bluegrass
Pogogyne
Poison-oak
Ponderosa pine
Pondweed
Popcorn flower
Poppy
Prostrate ceanothus
Purple needlegrass
Redbud
Red willow
Rush
Salt grass
Sandbar willow
Sand-spurry
Sedge
Seep-weed
Serviceberry
Silver bush lupine
Snakeweed
Snowberry
Spice bush
Spike rush
Spiney saltbush
Sugar pine
Sycamore
Tamarisk
Tanoak
Thistle
Toyon
Tule
Umbrella sedge
Valley oak
Valley saltbush
Verbena
Walnut
Water fern
Water lily
Water milfoil
White alder
White fir
White thorn
Wild grape

Avena barbata
Fraxinus latifolia
Orthocarpus erianthus and O. purpurascens
Arctostaphylos manzanita
Lepidium dictyotum
Salicornia virginica
Poa scabrella
Pogogyne douglasii
Toxicodendron diversilobum
Pinus ponderosa
Potomageton sp.
Plagiobothrys sp.
Eschscholzia californica
Ceanothus prostratus
Stipa pulchra
Cercis occidentalis
Salix lasiandra
Juncus sp.
Distichlis spicata
Salix hindsiana
Spergularia marina
Carex sp.
Suaeda moquinii
Amelanchier sp.
Lupinus albifrons
Gutierrezia bracteata
Symphoricarpos sp.
Calycanthus occidentalis
Eleocharis macrostachya
Atriplex spinifera
Pinus lambertiana
Platanus racemosa
Tamarix chilensis
Lithocarpus densiflora
Silybum marianum
Heteromeles arbutifolia
Scirpus sp.
Cyperus eragrostis
Quercus lobata
Atriplex polycarpa
Verbena hastata
Juglans hindsii
Azolla filiculoides
Nuphar polysepalum
Myriophyllum sp.
Alnus rhombifolia
Abies concolor
Ceanothus cordulatus
Vitis californica

Wild rose
Willow
Woolly marbles
Yellow waterweed

Rosa californica
Salix sp.
Psilocarphus brevissimus
Ludwigia peploides

Table A. Wildlife Species of the Sacramento River Service Area

Common Name	Scientific Name	Habitats ^a	Occurrence ^b on Refuges
<u>BIRDS</u>			
Red-throated loon	<u>Gavia stellata</u>	O	
Common loon	<u>Gavia immer</u>	O	S
Pied-billed grebe	<u>Podilymbus podiceps</u>	O,M	G,S
Horned grebe	<u>Podiceps auritus</u>	O,M	G,S
Eared grebe	<u>Podiceps nigricollis</u>	O,M	G,S
Western grebe	<u>Aechmophorus occidentalis</u>	O	G,S
American white pelican	<u>Pelecanus erythrorhynchos</u>	O,M	G,S
Double-crested cormorant	<u>Phalacrocorax auritus</u>	O,M	G,S
American bittern	<u>Botaurus lentiginosus</u>	M	G,S
Least bittern	<u>Ixobrychus exilis</u>	M	G,S
Great blue heron	<u>Ardea herodias</u>	M,R	G,S
Great egret	<u>Casmerodius albus</u>	M,R	G,S
Snowy egret	<u>Egretta thula</u>	M	G,S
Cattle egret	<u>Bubulcus ibis</u>	M,A	G,S
Green-backed heron	<u>Butorides striatus</u>	M,R	G,S
Black-crowned night heron	<u>Nycticorax nycticorax</u>	M,R	G,S
White-faced ibis	<u>Plegadis chihi</u>	M,A	S
Tundra swan	<u>Cygnus columbianus</u>	M,A	G,S
Greater white-fronted goose	<u>Anser albifrons</u>	M,A	G,S
Snow goose	<u>Chen caerulescens</u>	M,A	G,S
Ross' goose	<u>Chen rossii</u>	M,A	G,S
Canada goose	<u>Branta canadensis</u>	M,A,G	G,S
Aleutian Canada goose	<u>B. c. leucopareia</u>	M,A,G	G,S
Wood duck	<u>Aix sponsa</u>	M,R	G,S
Green-winged teal	<u>Anas crecca</u>	M,O	G,S
Mallard	<u>Anas platyrhynchos</u>	M,O	G,S
Northern pintail	<u>Anas acuta</u>	M,O	G,S
Blue-winged teal	<u>Anas discors</u>	M,O	G,S
Cinnamon teal	<u>Anas cyanoptera</u>	M,O	G,S
Northern shoveler	<u>Anas clypeata</u>	M,O	G,S
Gadwall	<u>Anas strepera</u>	M,O	G,S
Eurasian wigeon	<u>Anas penelope</u>	M,O	G,S
American wigeon	<u>Anas americana</u>	M,O	G,S
Canvasback	<u>Aythya valisineria</u>	M,O	G,S
Redhead	<u>Aythya americana</u>	M,O	G,S
Ring-necked duck	<u>Aythya collaris</u>	M,O	G,S
Greater scaup	<u>Aythya marila</u>	M,O	S
Lesser scaup	<u>Aythya affinis</u>	M,O	G,S
Common goldeneye	<u>Bucephala clangula</u>	M,O	G,S
Barrow's goldeneye	<u>Bucephala islandica</u>	M,O	
Bufflehead	<u>Bucephala albeola</u>	M,O	G,S
Hooded merganser	<u>Lophodytes cucullatus</u>	M,O	G,S
Common merganser	<u>Mergus merganser</u>	O	G,S
Ruddy duck	<u>Oxyura jamaicensis</u>	M,O	G,S
Turkey vulture	<u>Cathartes aura</u>	G,W,A	G,S
Osprey	<u>Pandion haliaetus</u>	O	G
Black-shouldered kite	<u>Elanus caeruleus</u>	G,W,A	G,S
Bald eagle	<u>Haliaeetus leucocephalus</u>	O	G,S
Northern harrier	<u>Circus cyaneus</u>	A,G,M	S
Sharp-shinned hawk	<u>Accipiter striatus</u>	W,G,R	G,S
Cooper's hawk	<u>Accipiter cooperii</u>	W,G,R	G,S
Northern goshawk	<u>Accipiter gentilis</u>	W,G	
Red-shouldered hawk	<u>Buteo lineatus</u>	R	G,S
Swainson's hawk	<u>Buteo swainsoni</u>	A,R,G	G,S
Red-tailed hawk	<u>Buteo jamaicensis</u>	A,R,G,W,C	G,S
Ferruginous hawk	<u>Buteo regalis</u>	A,G	G,S

^a Major wildlife habitats of the Sacramento River Service Area include: riparian (R), freshwater marsh (M), grassland (G), oak woodland (W), chaparral (C), agricultural areas (A), open water (O), urban (U), and rocky areas (Ro).

^b S = Recorded at the Sacramento National Wildlife Refuge Complex.
G = Recorded at Gray Lodge Wildlife Management Area.

Table A. Continued

Common Name	Scientific Name	Habitats ^a	Occurrence ^b on Refuges
BIRDS (continued)			
Rough-legged hawk	<u>Buteo lagopus</u>	A,G	G,S
Golden eagle	<u>Aquila chrysaetos</u>	C,W	G,S
American kestrel	<u>Falco sparverius</u>	A,C,R	G,S
Merlin	<u>Falco columbarius</u>	A,G	G,S
Peregrine falcon	<u>Falco peregrinus</u>	M,A,G	G,S
Prairie falcon	<u>Falco mexicanus</u>	G,A,M	G,S
Ring-necked pheasant	<u>Phasianus colchicus</u>	A,R	G,S
Wild turkey	<u>Meleagris gallopavo</u>	C,W	
California quail	<u>Callipepla californica</u>	O,W,C,R	G,S
Mountain quail	<u>Oreortyx pictus</u>	W,C	
Virginia rail	<u>Rallus limicola</u>	M	G,S
Sora	<u>Porzana carolina</u>	M	G,S
Common moorhen	<u>Gallinula chloropus</u>	M,O	G,S
American coot	<u>Fulica americana</u>	M,O	G,S
Sandhill crane	<u>Grus canadensis</u>	A,M	G,S
Black-bellied plover	<u>Pluvialis squatarola</u>	G,M,A	G,S
Lesser golden plover	<u>Pluvialis dominica</u>	G,M,A	
Snowy plover	<u>Charadrius alexandrinus</u>	M	S
Semipalmated plover	<u>Charadrius semipalmatus</u>	M	G,S
Killdeer	<u>Charadrius vociferus</u>	M,A,G	G,S
Mountain plover	<u>Charadrius montanus</u>	A	
Black-necked stilt	<u>Himantopus mexicanus</u>	M,A	G,S
American avocet	<u>Recurvirostra americana</u>	M,A	G,S
Greater yellowlegs	<u>Tringa melanoleuca</u>	M	G,S
Lesser yellowlegs	<u>Tringa flavipes</u>	M	G,S
Solitary sandpiper	<u>Tringa solitaria</u>	M	G,S
Willet	<u>Catoptrophorus semipalmatus</u>	M	G,S
Spotted sandpiper	<u>Actitis macularia</u>	M,R	G,S
Whimbrel	<u>Numenius phaeopus</u>	M	G,S
Long-billed curlew	<u>Numenius americanus</u>	M,A,G	G,S
Marbled godwit	<u>Limosa fedoa</u>	M	S
Red knot	<u>Calidris canutus</u>	M	
Western sandpiper	<u>Calidris mauri</u>	M	G,S
Least sandpiper	<u>Calidris minutilla</u>	M	G,S
Baird's sandpiper	<u>Calidris bairdii</u>	M	G
Pectoral sandpiper	<u>Calidris melanotos</u>	M	G,S
Dunlin	<u>Calidris alpina</u>	M	G,S
Short-billed dowitcher	<u>Limnodromus griseus</u>	M	G
Long-billed dowitcher	<u>Limnodromus scolopaceus</u>	M	G,S
Common snipe	<u>Gallinago gallinago</u>	M	G,S
Wilson's phalarope	<u>Phalaropus tricolor</u>	M,O	G,S
Red-necked phalarope	<u>Phalaropus lobatus</u>	M,O	G,S
Bonaparte's gull	<u>Larus philadelphia</u>	M,O	S
Mew gull	<u>Larus canus</u>	M,O	
Ring-billed gull	<u>Larus delawarensis</u>	M,O,A	G,S
California gull	<u>Larus californicus</u>	M,O,A	G,S
Herring gull	<u>Larus argentatus</u>	M,O,A	G,S
Thayer's gull	<u>Larus thayeri</u>	M,O,A	
Glaucous-winged gull	<u>Larus glaucescens</u>	M,O,A	
Caspian tern	<u>Sterna caspia</u>	O	G,S
Forster's tern	<u>Sterna forsteri</u>	O	G,S
Black tern	<u>Chlidonias niger</u>	M,O	G,S
Rock dove	<u>Columba livia</u>	C,A	G,S
Band-tailed pigeon	<u>Columba fasciata</u>	W,C	G,S
Mourning dove	<u>Zenaidura macroura</u>	A,W,C,G	G,S
Yellow-billed cuckoo	<u>Coccyzus americanus</u>	R	G
Greater roadrunner	<u>Geococcyx californianus</u>	C	

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Table A. Continued

Common Name	Scientific Name	Habitats ^a	Occurrence ^b on Refuges
BIRDS (continued)			
Common barn-owl	<u>Tyto alba</u>	A,G	G,S
Western screech-owl	<u>Otus kennicottii</u>	W,R	G,S
Great horned owl	<u>Bubo virginianus</u>	W,R	G,S
Northern pygmy-owl	<u>Glaucidium gnoma</u>	W	S
Burrowing owl	<u>Athene cunicularia</u>	G,A	G,S
Long-eared owl	<u>Asio otus</u>	R	G,S
Short-eared owl	<u>Asio flammeus</u>	O,A,M	G,S
Northern saw-whet owl	<u>Aegolius acadicus</u>	W	S
Lesser nighthawk	<u>Chordeiles acutipennis</u>	C,R	G,S
Common nighthawk	<u>Chordeiles minor</u>	C,R	S
Common poorwill	<u>Phalaenoptilus nuttallii</u>	C,R	G,S
Vaux's swift	<u>Chaetura vauxi</u>	R,C	G,S
White-throated swift	<u>Aeronautes saxatalis</u>	R,C,W	G,S
Black-chinned hummingbird	<u>Archilochus alexandri</u>	R,C	S
Anna's hummingbird	<u>Calypte anna</u>	R,C,U	G,S
Costa's hummingbird	<u>Calypte costae</u>	R,C	
Rufous hummingbird	<u>Selasphorus rufus</u>	R,U	G,S
Allen's hummingbird	<u>Selasphorus sasin</u>	R,U	S
Belted kingfisher	<u>Ceryle alcyon</u>	R,O	G,S
Lewis' woodpecker	<u>Melanerpes lewis</u>	W,G	G,S
Acorn woodpecker	<u>Melanerpes formicivorus</u>	W,G	G,S
Red-breasted sapsucker	<u>Sphyrapicus ruber</u>	W,R	
Nuttall's woodpecker	<u>Picoides nuttallii</u>	W,R	G,S
Downy woodpecker	<u>Picoides pubescens</u>	W,R	G,S
Hairy woodpecker	<u>Picoides villosus</u>	W	S
Northern flicker	<u>Colaptes auratus</u>	W,R,G	G,S
Olive-sided flycatcher	<u>Contopus borealis</u>	W,R	G
Western wood-pewee	<u>Contopus sordidulus</u>	W,R	G,S
Willow flycatcher	<u>Empidonax traillii</u>	R	G,S
Hammond's flycatcher	<u>Empidonax hammondi</u>	R,W	G
Dusky flycatcher	<u>Empidonax oberholseri</u>	R,W,C	G
Gray flycatcher	<u>Empidonax wrightii</u>	R	
Western flycatcher	<u>Empidonax difficilis</u>	R	G,S
Black phoebe	<u>Sayornis nigricans</u>	R,M	G,S
Say's phoebe	<u>Sayornis saya</u>	G	G,S
Ash-throated flycatcher	<u>Myiarchus cinerascens</u>	W,R	G,S
Western kingbird	<u>Tyrannus verticalis</u>	G	G,S
Horned lark	<u>Eremophila alpestris</u>	G	G,S
Purple martin	<u>Progne subis</u>	G	G,S
Tree swallow	<u>Tachycineta bicolor</u>	R,A,G	G,S
Violet-green swallow	<u>Tachycineta thalassina</u>	R,A,G	G,S
Northern rough-winged swallow	<u>Stelgidopteryx serripennis</u>	R,A,G	G,S
Bank swallow	<u>Riparia riparia</u>	R	G,S
Cliff swallow	<u>Hirundo pyrrhonota</u>	R,A,G,O	G,S
Barn swallow	<u>Hirundo rustica</u>	R,A,G,O	G,S
Steller's jay	<u>Cyanocitta stelleri</u>	W	
Scrub jay	<u>Aphelocoma coerulescens</u>	W,R	G,S
Yellow-billed magpie	<u>Pica nuttallii</u>	G,R	G,S
American crow	<u>Corvus brachyrhynchos</u>	W,G,R	G,S
Common raven	<u>Corvus corax</u>	C,W	S
Plain titmouse	<u>Parus inornatus</u>	W,R	G,S
Bushtit	<u>Psaltiriparus minimus</u>	W,R	G,S
Red-breasted nuthatch	<u>Sitta canadensis</u>	W	G
White-breasted nuthatch	<u>Sitta carolinensis</u>	W	G,S
Brown creeper	<u>Certhia americana</u>	W	G,S
Rock wren	<u>Salpinctes obsoletus</u>	Ro	
Canyon wren	<u>Catherpes mexicanus</u>	Ro	

^a Major wildlife habitats of the Sacramento River Service Area include: riparian (R), freshwater marsh (M), grassland (G), oak woodland (W), chaparral (C), agricultural areas (A), open water (O), urban (U), and rocky areas (Ro).

^b S = Recorded at the Sacramento National Wildlife Refuge Complex.
G = Recorded at Gray Lodge Wildlife Management Area.

Table A. Continued

Common Name	Scientific Name	Habitats ^a	Occurrence ^b on Refuges
BIRDS (continued)			
Bewick's wren	<u>Thryomanes bewickii</u>	R,W,C	G,S
House wren	<u>Troglodytes aedon</u>	R,W	G,S
Winter wren	<u>Troglodytes troglodytes</u>	R	S
Marsh wren	<u>Cistothorus palustris</u>	M	G,S
American dipper	<u>Cinclus mexicanus</u>	R	
Golden-crowned kinglet	<u>Regulus satrapa</u>	W,R	G,S
Ruby-crowned kinglet	<u>Regulus calendula</u>	W,R	G,S
Blue-gray gnatcatcher	<u>Polioptila caerulea</u>	R,C	G,S
Western bluebird	<u>Sialia mexicana</u>	G,W,C	G,S
Mountain bluebird	<u>Sialia currucoides</u>	G,W	S
Townsend's solitaire	<u>Myadestes townsendi</u>	W	
Swainson's thrush	<u>Catharus ustulatus</u>	R,W	G,S
Hermit thrush	<u>Catharus guttatus</u>	R,W,C	G,S
American robin	<u>Turdus migratorius</u>	G,R,W,C,U	G,S
Varied thrush	<u>Ixoreus naevius</u>	R,W	G,S
Wrentit	<u>Chamaea fasciata</u>	R,C	
Northern mockingbird	<u>Mimus polyglottos</u>	R,C,U	G,S
California thrasher	<u>Toxostoma redivivum</u>	C,R	
Water pipit	<u>Anthus spinoletta</u>	G	G,S
Cedar waxwing	<u>Bombicilla cedrorum</u>	W	G,S
Phainopepla	<u>Phainopepla nitens</u>	R,W	S
Loggerhead shrike	<u>Lanius ludovicianus</u>	G,A	G,S
European starling	<u>Sturnus vulgaris</u>	G,A,U,W,C	G,S
Solitary vireo	<u>Vireo solitarius</u>	W,R	G,S
Hutton's vireo	<u>Vireo huttoni</u>	W,R	S
Warbling vireo	<u>Vireo gilvus</u>	W,R	G,S
Orange-crowned warbler	<u>Vermivora celata</u>	C,R,W	G,S
Nashville warbler	<u>Vermivora ruficapilla</u>	R,W	G,S
Yellow warbler	<u>Dendroica petechia</u>	R	G,S
Yellow-rumped warbler	<u>Dendroica coronata</u>	R,W,U	G,S
Black-throated gray warbler	<u>Dendroica nigrescens</u>	W	G,S
Townsend's warbler	<u>Dendroica townsendi</u>	W	G,S
Hermit warbler	<u>Dendroica occidentalis</u>	W	G,S
MacGillivray's warbler	<u>Oporornis tolmiei</u>	W,R	G,S
Common yellowthroat	<u>Geothlypis trichas</u>	M,R	G,S
Wilson's warbler	<u>Wilsonia pusilla</u>	M,R,C	G,S
Yellow-breasted chat	<u>Icteria virens</u>	R	G,S
Western tanager	<u>Piranga ludoviciana</u>	W,R	G,S
Black-headed grosbeak	<u>Pheucticus melanocephalus</u>	W,R	G,S
Blue grosbeak	<u>Guiraca caerulea</u>	R,G	G,S
Lazuli bunting	<u>Passerina amoena</u>	R,G,W	G,S
Green-tailed towhee	<u>Pipilo chlorurus</u>	C	G,S
Rufous-sided towhee	<u>Pipilo erythrophthalmus</u>	C,U	G,S
Brown towhee	<u>Pipilo fuscus</u>	C,U	G,S
Rufous-crowned sparrow	<u>Aimophila ruficeps</u>	C,R	
Chipping sparrow	<u>Spizella passerina</u>	C,R,W	G,S
Vesper sparrow	<u>Poocetes gramineus</u>	G	G,S
Lark sparrow	<u>Chondestes grammacus</u>	G,W	G,S
Sage sparrow	<u>Amphispiza belli</u>	C	
Savannah sparrow	<u>Passerculus sandwichensis</u>	G,R	G,S
Fox sparrow	<u>Passerella iliaca</u>	R,C	G,S
Song sparrow	<u>Melospiza melodia</u>	R,M	G,S
Lincoln's sparrow	<u>Melospiza lincolni</u>	R,M	G,S
Golden-crowned sparrow	<u>Zonotrichia atricapilla</u>	C,U,C	G,S
White-crowned sparrow	<u>Zonotrichia leucophrys</u>	G,U,C	G,S
Dark-eyed junco	<u>Junco hyemalis</u>	G,W,C	G,S
Red-winged blackbird	<u>Agelaius phoeniceus</u>	M,R,G,A	G,S

^a Major wildlife habitats of the Sacramento River Service Area include: riparian (R), freshwater marsh (M), grassland (G), oak woodland (W), chaparral (C), agricultural areas (A), open water (O), urban (U), and rocky areas (Ro).

^b S = Recorded at the Sacramento National Wildlife Refuge Complex.
G = Recorded at Gray Lodge Wildlife Management Area.

Table A. Continued

Common Name	Scientific Name	Habitats ^a	Occurrence ^b on Refuges
<u>BIRDS (continued)</u>			
Tricolored blackbird	<u>Agelaius tricolor</u>	M,R,G,A	G,S
Western meadowlark	<u>Sturnella neglecta</u>	G	G,S
Yellow-headed blackbird	<u>Xanthocephalus xanthocephalus</u>	M	G,S
Brewer's blackbird	<u>Euphagus cyanocephalus</u>	M,A,U,G	G,S
Brown-headed cowbird	<u>Molothrus ater</u>	R,M,G,A	G,S
Northern oriole	<u>Icterus galbula</u>	W	G,S
Purple finch	<u>Carpodacus purpureus</u>	R,W	G
House finch	<u>Carpodacus mexicanus</u>	R,W,A,U	G,S
Pine siskin	<u>Carduelis pinus</u>	W	G,S
Lesser goldfinch	<u>Carduelis psaltria</u>	R,G,W	G,S
Lawrence's goldfinch	<u>Carduelis lawrencei</u>	R,G,W,C	
American goldfinch	<u>Carduelis tristis</u>	R,G,W,C	G,S
Evening grosbeak	<u>Coccothraustes vespertinus</u>	W	G,S
House sparrow	<u>Passer domesticus</u>	U	G,S
<u>AMPHIBIANS</u>			
Tiger salamander	<u>Ambystoma tigrinum</u>	R,G	S ^c
California slender salamander	<u>Batrachoseps attenuatus</u>		
Western spadefoot	<u>Scaphiopus hammondi</u>		
Western toad	<u>Bufo boreas</u>		
Pacific treefrog	<u>Hyla regilla</u>	R,G	S
Bullfrog	<u>Rana catesbeiana</u>	M	S
<u>REPTILES</u>			
Western pond turtle	<u>Clemmys marmorata</u>	M,R	S
Western fence lizard	<u>Sceloporus occidentalis</u>	C,W,G	S
Western skink	<u>Eumeces skiltonianus</u>	G,W,Ro	
Western whiptail	<u>Cnemidophorus tigris</u>	W,R	
Southern alligator lizard	<u>Gerrhonotus multicarinatus</u>	G,C,W	
Northern alligator lizard	<u>Gerrhonotus coeruleus</u>	G,C,W	
Rubber boa	<u>Charina bottae</u>	G,R	
Ringneck snake	<u>Diadophis punctatus</u>	W,C,G	
Sharp-tailed snake	<u>Contia tenuis</u>	W,G,R	
Coachwhip	<u>Masticophis flagellum</u>	G,W	
Racer	<u>Coluber constrictor</u>	G,C	S
Gopher snake	<u>Pituophis melanocephalus</u>	G,W,R,M,A	S
Common kingsnake	<u>Lampropeltis getulus</u>	G,W,R,M	S
Long-nosed snake	<u>Rhinocheilus lecontei</u>	G,W	
Common garter snake	<u>Thamnophis sirtalis</u>	A,M,G	S
Western terrestrial garter snake	<u>Thamnophis elegans</u>	M,G	
Western aquatic garter snake	<u>Thamnophis couchi</u>	M,G,O	
Night snake	<u>Hypsiglena torquata</u>	C,R	
Western rattlesnake	<u>Crotalus viridis</u>	C,C,R,W	
<u>MAMMALS</u>			
Virginia opossum	<u>Didelphis virginiana</u>	R	S
Vagrant shrew	<u>Sorex vagrans</u>	R,G	S
California myotis	<u>Myotis californicus</u>	Widespread in many habitats	S
Red bat	<u>Lasiurus borealis</u>	Widespread in many habitats	S
Hoary bat	<u>Lasiurus cinereus</u>	Widespread in many habitats	S
Pallid bat	<u>Antrozous pallidus</u>	Widespread in many habitats	S
Brazilian free-tailed bat	<u>Tadarida brasiliensis</u>	Widespread in many habitats	S
Big free-tailed bat	<u>Tadarida macrotis</u>	Widespread in many habitats	S
Desert cottontail	<u>Sylvilagus audubonii</u>	G,M,R	S

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^b S = Recorded at the Sacramento National Wildlife Refuge Complex.
G = Recorded at Gray Lodge Wildlife Management Area.

^c No published lists of amphibians, reptiles, or mammals of Gray Lodge were available for review.

Table A. Continued

Common Name	Scientific Name	Habitats ^a	Occurrence ^b on Refuges
MAMMALS (continued)			
Black-tailed hare	<u>Lepus californicus</u>	G,M	S
California ground squirrel	<u>Spermophilus beecheyi</u>	G,M,R,C	S
Beaver	<u>Castor canadensis</u>	R,M	S
Western harvest mouse	<u>Reithrodontomys megalotis</u>	G	S
Deer mouse	<u>Peromyscus maniculatus</u>	G	S
California vole	<u>Microtus californicus</u>	G	S
Muskrat	<u>Ondatra zibethicus</u>	M	S
Black rat	<u>Rattus rattus</u>	U,A	S
Norway rat	<u>Rattus norvegicus</u>	U,A	S
House mouse	<u>Mus musculus</u>	U,A	S
Coyote	<u>Canis latrans</u>	C,W,G	S
Red fox	<u>Vulpes vulpes</u>	G,W	S
Gray fox	<u>Urocyon cinereoargenteus</u>	G,W,R	S
Ringtail	<u>Bassariscus astutus</u>	R	S
Raccoon	<u>Procyon lotor</u>	R	S
Mink	<u>Mustela vison</u>	R,M	S
Western spotted skunk	<u>Spilogale gracilis</u>	R	S
Striped skunk	<u>Mephitis mephitis</u>	R,W	S
River otter	<u>Lutra canadensis</u>	R	S
Black-tailed deer	<u>Odocoileus hemionus</u>	C,W,G,R	S

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^c No published lists of amphibians, reptiles, or mammals of Gray Lodge were available for review.

Table B: Special-Status Plants Known or Suspected: Sacramento River Service Area.

Scientific and Common Names	Status		Distribution	Habitat
	Fed./State/CNPS			
Aster chilensis var. lentus Suisun marsh aster (Asteraceae - sunflower family)	C2 /	/ 1b	Sacramento-San Joaquin River delta	Freshwater marshes at the upper zone of tidal influence
Atriplex cordulata Heartscale (Chenopodiaceae - Goosefoot Family)	/	/ 3	Central Valley from Glenn Co south to the southern San Joaquin Valley	Seasonal alkaline wetland such as alkali meadows and valley sink scrub
Atriplex parishii Brittlescale (Chenopodiaceae - Goosefoot Family)	/	/ 3	Central Valley from Glenn Co south to the southern San Joaquin Valley	Seasonal alkaline wetland such as alkali meadows and valley sink scrub
Atriplex patula ssp. spicata San Joaquin Valley saltbush (Chenopodiaceae - Goosefoot family)	C2 /	/ A1	San Joaquin and southern Sacramento Valleys and valley bottoms of adjacent Coast Range foothills	Low-lying wetlands with alkaline soils; alkali marsh and iodine bush scrub communities
Calycadenia fremontii Fremont's rosin weed (Asteraceae - Sunflower family)	C2 /	/ 1b	Northern Sacramento Valley from Butte to Shasta County	Open grasslands with low productivity soils, often with bedrock exposed, also possibly from meadow edge and openings in conifer forests
Chamaesyce hooveri Hoover's spurge (Euphorbiaceae - Spurge family)	C2 /	/ 1b	Central Valley from Tehama County south to Tulare County	Bottom of larger northern hardpan vernal pools below their high water mark
Cirsium crassicaule Slough thistle (Asteraceae - Sunflower Family)	C2 /	/ 1b	Only positively known from the Delta but possibly occurred historically throughout the San Joaquin Valley	Shallow water or saturated soils in various plant communities along sloughs, canals and rivers, often in disturbed areas
Cirsium hydrophilum var. hydrophilum Suisun Marsh thistle (Asteraceae - Sunflower family)	C1 /	/ 1b	Known from one historic occurrence at Suisun Marsh	Estuarine marsh at or above the tidal zone
Cordylanthus mollis ssp. hispidus hispid bird's-beak (Scrophulariaceae - Figwort Family)	C2 /	/ 1b	Widespread but spotty in Sacramento, San Joaquin Valley, Coast Range valley bottoms, and the Delta	Alkaline or saline flats in alkali meadows, iodine bush scrub, and alkaline grassland

Table B: Special-Status Plants Known or Suspected: Sacramento River Service Area.

<i>Cordylanthus palmatus</i> palmate-bracted bird's-beak (Scrophulariaceae - Figwort Family)	E / E / 1b	Widespread but spotty in San Joaquin and Sacramento valleys south of Colusa County and adjacent Coast Range valleys	Alkaline flats in alkali meadows, iodine bush scrub and alkali grasslands
<i>Cryptantha crinata</i> Silky cryptantha (Boraginaceae - Borage Family)	C2 / / 1b	Northern Sacramento Valley in Shasta and Tehama Counties on the Stillwater and Millville Plains	Sparsely vegetated, stabilized sand and gravel bars and alluvial terraces within creek floodplains
<i>Fritillaria pluriflora</i> adobe lily (Liliaceae - Lily Family)	C2 / / 3	East and west edges of the Sacramento Valley and adjacent foothills	Heavy clay soils in grassland, oak woodland and chaparral communities
<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop (Scrophulariaceae - Figwort Family)	C2 / R / 1b	Widespread but infrequent, reported from Fresno, Merced, Sacramento, Placer, Lake and Shasta Counties and Oregon	Vernal pools and margins of seasonally receding ponds and lakes
<i>Hibiscus californicus</i> California hibiscus (Malvaceae - Mallow Family)	C2 / / 1b	Central Valley from Butte to San Joaquin County and adjacent Delta areas	Riparian habitats with freshwater marsh vegetation in areas with slow water velocities such as canals, sloughs, ponds, oxbows, etc.
<i>Juncus leiospermus</i> var. <i>leiospermus</i> Red Bluff rush (Juncaceae - Rush Family)	C2 / / 1b	Central valley from Red Bluff (Tehama County) south to Merced County	Vernal pools, vernal swales and seasonal seeps
<i>Lathyrus jepsonii</i> ssp. <i>jepsonii</i> Delta tule pea (Fabaceae - Pea Family)	C2 / / 1b	Delta and Central Valley from Butte to Tulare County	River and canal banks in brackish and freshwater marshes and riparian woodlands, at the upper margin or above the zone of tidal influence
<i>Legenere limosa</i> Green's legenere (Campanulaceae - Bellflower Family)	C2 / / 1b	Primarily the lower Sacramento Valley in Lake and Solano County and upper San Joaquin Valley in San Mateo and Stanislaus Counties	Seasonally wet habitat such as vernal pools, ditches, marsh edges and river banks
<i>Lilaeopsis masonii</i> Mason's lilaeopsis (Apiaceae - Carrot family)	C2 / R / 1b	Sacramento - San Joaquin River delta	Freshwater marshes within the zone of tidal fluctuation
<i>Neostapfia colusana</i> Colusa grass (Poaceae - Grass Family)	C1 / E / 1b	Central Valley from Colusa to Merced County	Bottom of large alkaline (northern claypan) vernal pools

Table B: Special-Status Plants Known or Suspected: Sacramento River Service Area.

<i>Orcuttia pilosa</i> Hairy Orcutt grass (Poaceae - Grass Family)	C1 / E / 1b	Widespread but spotty along the east edge of the Central Valley from Tehama to Madera County	Bottoms of large vernal pools
<i>Orcuttia tenuis</i> Slender orcutt grass (Poaceae - Grass Family)	C1 / E / 1b	Widespread but spotty from eastern Shasta County, and Lake County, also in Sacramento Valley from Sacramento to Shasta County	Bottom of vernal pools typically underlain by volcanic substrates
<i>Paronychia ahartii</i> Ahart's paronychia (Caryophyllaceae - Pink Family)	C2 / / 1b	Northern Sacramento Valley, reported from the Corning-Chico-Oroville area	Undulating annual grasslands with thin, low-productivity soils in transition between low swales and uplands
<i>Plagiobothrys hystriculus</i> Bearded popcorn flower (Boraginaceae - Borage Family)	C2 / / 1b	West portion of the lower Sacramento and upper San Joaquin Valleys	Seasonally wet or flooded vernal pools and swales
<i>Sagittaria sanfordii</i> Sanfords sagittaria (Alismataceae - Arrowhead Family)	C2 / / 1b	Widespread but infrequent, reported from Del Norte, Fresno, Sacramento, Santa Barbara, and Ventura Counties	Sloughs and sluggish streams with silty or muddy substrate, associated with emergent marsh vegetation
<i>Trifolium amoenum</i> Showy Indian clover (Fabaceae - Pea Family)	C2 / / 1b	Widespread in the Coast Ranges from Mendocino to Santa Clara County	Poorly known, reported from grasslands and oak woodlands in low swales and other seasonally moist sites
<i>Tropidocarpum capparideum</i> Caper-fruited tropidocarpum (Brassicaceae - Mustard Family)	C2 / / 1b	West edge of the Central Valley from San Joaquin to Glenn County and the Coast Range foothills from Monterey to Mendocino County	Grasslands and oak woodlands in clay-rich alkaline soils, possibly requires seasonally saturated soils
<i>Tuctoria greenei</i> Green's tuctoria (Poaceae - Grass Family)	C1 / E / 1b	East edge of the Central Valley from Tehama to Tulare County	Bottoms of large vernal pools
<i>Tuctoria mucronata</i> Crampton's tuctoria (Poaceae - Grass family)	C1 / E / 1b	Presently only known from Solano County in and near The Nature Conservancy's Jepson Prairie	Bottoms of large, alkaline, northern claypan vernal pools

Table C. Special-Status Wildlife Species with Potential to Occur:
Sacramento River Service Area

Common and Scientific Names	Status ^a Federal/State	Distribution	Habitat
INSECTS			
Valley elderberry longhorn beetle (<u>Desmocerus californicus dimorphus</u>)	FT/--	Sacramento and San Joaquin Valleys; recent records from Sacramento River from Yolo to Tehama Counties, American River in Sacramento County, Putah Creek in Solano and Yolo Counties, Cosumnes River in Sacramento County.	Riparian habitat with associ- ated elderberry shrubs.
Delta green ground beetle (<u>Elaphrus viridus</u>)	FE/--	Olcott Lake, Willis Linn Jepson Prairie Preserve, Solano County.	Native grasslands, vernal pools.
Sacramento anthicid beetle (<u>Anthicus sacramento</u>)	C2/--	Sacramento, Solano, and Butte Counties.	Loose, sandy soils occurring as dunes or along riparian areas.
AMPHIBIANS			
California tiger salamander (<u>Ambystoma tigrinum californiense</u>)	C2/--	Sacramento and San Joaquin Valleys, from Butte County in the north to Santa Barbara County in the south.	Still waters of ponds, reservoirs, streams, vernal pools, open grasslands, and woodlands; burrows, rock crevices, and fallen logs provide additional cover.
REPTILES			
Western pond turtle (<u>Clemmys marmorata</u>)	C2/--	Sacramento and San Joaquin Valleys.	Ponds, marshes, rivers, streams, and muddy, rocky irrigation ditches.
Giant garter snake (<u>Thamnophis couchi gigas</u>)	C2/ST	Central Valley, including Butte, Colusa, Yolo, Sacramento, Solano, and San Joaquin Counties.	Permanent fresh water, particularly sloughs and marshes overgrown with tules or willows; may also use flooded rice fields and irrigation canals.

Table C. Sacramento River Service Area (continued)

Common and Scientific Names	Status ^a		Distribution	Habitat
	Federal/State			
BIRDS				
Bald eagle (<u>Haliaeetus leucocephalus</u>)	FE/SE		Most nesting occurs in Shasta, Lassen, and Plumas Counties. Few pairs nest in Trinity, Modoc, Butte, Lake, and El Dorado Counties. Population winters in Sacramento and San Joaquin Valleys.	Nests and roosts in coniferous forests within 1 mile of the edge of lakes, reservoirs, or rivers.
American peregrine falcon (<u>Falco peregrinus avatum</u>)	FE/SE		Nests in central and north Coast Ranges, and Sierra Nevada; winters in Sacramento and San Joaquin Valleys.	Protected ledges of high cliffs, usually adjacent to marshes, lakes, or rivers that support abundant birds.
Aleutian Canada goose (<u>Branta canadensis leucopareia</u>)	FE/--		Entire population winters in Butte sink, then moves to Los Banos and Modesto and to the Delta.	Prefers to forage in harvested corn fields and flood-irrigated fields; roosts in large marshes, flooded fields, and stock ponds.
California clapper rail (<u>Rallus longirostris obsoletus</u>)	FE/SE		San Francisco, San Pablo, and Suisun Bays, Suisun Marsh.	Saltwater tidal marshes dominated by pickleweed and cordgrass, brackish water marshes along tidal sloughs with alkali bulrush.
Swainson's hawk (<u>Buteo swainsoni</u>)	C2/ST		Lower Sacramento and San Joaquin Valleys, Klamath Basin, and Butte Valley; highest density of nesting occurs in Yolo County.	Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures and grain fields.
Western yellow-billed cuckoo (<u>Coccyzus americanus occidentalis</u>)	C2/ST		Sacramento River, north of Colusa.	Extensive, dense groves of broad leaved, deciduous hardwoods, especially willow and cottonwood adjacent to open water.
California black rail (<u>Laterallus jamaicensis coturniculus</u>)	C2/ST		Marshes bordering San Pablo Bay.	Tidal salt marshes dominated by pickleweed or low-growing tules.
White-faced ibis (<u>Plegadis chihi</u>)	C2/--		Nests in Colusa County and other isolated areas in Central Valley; winters near Los Banos, Merced County.	Freshwater marshes with tules, cattails, and rushes; may nest in trees and forage in flooded agricultural fields.

Table C. Sacramento River Service Area (continued)

Common and Scientific Names	Status ^a Federal/State	Distribution	Habitat
Greater sandhill crane (<u>Grus canadensis tabida</u>)	C2/--	Nests in Modoc and Lassen Counties; winters in Sacramento and San Joaquin Valleys; Butte, San Joaquin, Stanislaus, Merced, and Tulare Counties.	Shallow water for loafing and roosting, adjacent to agricultural areas providing rice, barley, sorghum, or corn.
Mountain plover (<u>Charadrius montanus</u>)	C2/--	Winters along west side of the Central Valley from Yolo County south.	Frequents grasslands and level fields where vegetation is low and sparse.
Long-billed curlew (<u>Numenius americanus</u>)	C2/--	Winters in Sacramento and San Joaquin Valleys.	Freshwater, brackish marshes adjacent to agricultural fields, irrigated pastures, and meadows.
Bank swallow (<u>Riparia riparia</u>)	--/**	Most known nesting sites for this species are on the Sacramento and Feather Rivers.	Nests in colonies on earthen streambanks.
Tricolored blackbird (<u>Agelaius tricolor</u>)	C2/--	Sacramento and San Joaquin Valleys, Shasta to Kern Counties.	Marshes and ponds associated with cattails and tules or willows. Forages along edge of water, grasslands, and irrigated pastures.
Suisun song sparrow (<u>Melospiza melodia maxillaris</u>)	--/P	Resident of marshes surrounding Suisun Bay from the vicinity of the Sacramento-San Joaquin River confluence (near Antioch) west to the Carquinez Strait.	Brackish water marshes dominated by cattails, tules, sedges, or pickleweed.
MAMMALS			
Salt marsh harvest mouse (<u>Reithrodontomys raviventris</u> <u>raviventris</u> and <u>R. r. halicoetes</u>)	FE/SE	San Francisco, San Pablo, and Suisun Bays, Sacramento River Delta.	Marshes 100 acres or more, with a dense plant cover of pickleweed and fathen; adjacent to an upland site.
Suisun shrew (<u>Sorex ornatus sinuosus</u>)	C2	San Pablo and Suisun Bays and Suisun Marsh, east to Grizzly Island.	Tidal marshes dominated by dense, low-lying cover where invertebrates are abundant; plants commonly associated include cordgrass and pickleweed.

Table C. Sacramento River Service Area (continued)

^aStatus definitions:

FE = Federal endangered

FT = Federal threatened

C1 = A candidate species under review for federal listing. Category 1 includes species for which the USFWS presently has substantial information on biological vulnerability and threats to support the appropriateness of proposing to list them as endangered or threatened species. Proposed rules are anticipated for these taxa, but may be delayed for some years because of further research needs, the large number of taxa under review, and limited staffing.

C2 = A candidate species under review for federal listing. Category 2 includes species for which the USFWS presently has some information indicating that "proposing to list them as endangered or threatened species is possibly appropriate," but for which further biological research and field study are usually needed to determine biological vulnerability and threats.

Note:

Category 2 species are not necessarily less rare or less threatened than Category 1 species. The distinction relates to the amount of data available and is therefore administrative rather than biological.

SE = State endangered.

ST = State threatened.

P = The bank swallow is proposed for listing as threatened or endangered by the California Fish and Game Commission.

Table D: Distribution of Plant Communities: Sacramento River Service Area.

Agencies	Plant Communities*							
	Riparian	Wetland					Terrestrial	
		Freshwater & Alkaline Marsh	Open Water	Hardpan Vernal Pool	Claypan Vernal Pool	Alkali Meadow	Grassland	Blue Oak Woodland
Shasta Dam PUD	Kf	K	K	S			K	K
Sacramento Valley Canals Agencies								
Colusa Co WD	Kf	K	K		S	S	K	K
Corning WD	Kf	K	K	S			K	K
Dunnigan WD	Kf	K	K		S	S	K	S
Glenn-Colusa ID	Kf	K	K		S	S	K	
Glenn Co	Kf	K	K		S	S	K	K
Glide WD	K	K	K		S	S	K	K
Holthouse WD	K				S	S	K	
Orland-Artois WD	Kf	K	K	S			K	
Rancho Saucos WD	K			S			K	
Tehama Ranch Mutual WD	K	K	K	S			K	
Yolo-Zamora WD	Kf	K	K		S	S	K	K
Yolo-Solano CVP Water Service Coord. Group								
Yolo Co FCWCD	Kf	K	K		S	S	K	K
Collinsville	K	K	K		S	S	K	
Davis	Kf	K	K		S	S	K	
Dixon	K	K	K		S	S	K	
Fairfield	Kf	K	K		S	S	K	K
Woodland	K	K	K		S	S	K	
Rio Vista	K	K	K		S	S	K	
Vacaville	Kf	K	K		S	S	K	K
Suisun	K	K			S	S	K	K
Benicia	K	K	K		S	S	K	K
Vallejo	Kf	K	K		S	S	K	K

Note: Cell entries specify whether a community is known (K) or suspected(S) within a requesting agency.

State and federal wildlife refuges are not shown on this table.

*Riparian: Riparian vegetation presumed present if canals, creeks or rivers were mapped on 7.5' USGS topographic maps, or if designated by USFWS on National Wetland Inventory maps (various dates).

Assume riparian habitats support herbaceous vegetation unless otherwise indicated.

Terrestrial: Based on DWR Land Use Survey Maps and USGS topographic maps.

Marsh: Mapped as palustrine emergent wetlands on USFWS National Wetland Inventory Maps (various dates).

Hardpan vernal pool: Presence unsubstantiated, but suspected based on the presence of untilled grasslands in areas of relatively flat topography.

Claypan vernal pool: Presence unsubstantiated, but suspected based on the presence of untilled grasslands in areas of relatively flat topography with alkaline soils (Glenn, Solano, Yolo and Colusa Counties).

Alkali meadow: Presence unsubstantiated, but suspected based on presence of seasonal wetlands identified on USFWS National Wetlands Inventory Maps (various dates) in areas with saline or alkaline soils.

Kf = portions identified as forested on USFWS National Wetland Inventory Maps (various dates).

Table E: Special-Status Plant Species: Sacramento River Service Area.

Agencies	Special-Status Plant Species*																												
	ASCHL	ATCO	ATPA	ATPAS	CAFR	CHHO	CICR	CIHYH	COMOH	COPA	CRCR	FRPL	GRHE	HICA	JULEL	LACO	LAJEJ	LELI	LIMA	NECO	ORPI	ORTE	PAAH	PLHY	SASA	TRAM	TRCA	TUGR	TUMU
Shasta Dam PUD					S	S				S		S		S						S	S	S		S				S	
Sacramento Valley Canals Agencies																													
Colusa Co WD		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Corning WD					S	S					S	S	S		S					S	S	S		S					S
Dunnigan WD		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Glenn-Colusa ID		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Glenn Co		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	K(1)		S
Glide WD		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Holthouse WD		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Orland-Artois WD						S						S	S	S	S					S	S	S		S					S
Rancho Saucos WD					S	S							S		S					S	S	S							S
Tehama Ranch Mutual WD					S	S					S	S	S		S					S	S	S		S					S
Yolo-Zamora WD		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Yolo-Solano CVP Water Service Coord. Group																													
Yolo Co FCWCD		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Collinsville	K(1)	S	S	S			S		S	S		S	S	S	S	S	S	S	K(1)	S	S	S		S	S	S	S		S
Davis		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Dixon		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Fairfield		S	S	S			S		S	S		S	S	S	S	K(4)		S		S	S	S		S	S	S	S		S
Woodland		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Rio Vista	S	S	S	S			S		S	S		S	S	K(1)	S	S	K(1)	S	S	S	S	S		S	S	S	S		S
Vacaville		S	S	S					S	S		S	S	S	S	S		S		S	S	S		S	S	S	S		S
Suisun City	S	S	S	S			S	S	S	S						S	S	S	S						S	S	S		
Benicia		S	S	S					S	S						S		S							S	S	S		
Vallejo		S	S	S					S	S						S		S							S	S	S		

Note: Cell entries specify whether a species is known (K) or suspected (S) within requesting agencies. Known locations are based on NDDB (1987), number of populations within proposed impact areas is shown in parentheses. Suspected occurrences are based upon species habitat requirements and distributions, and the presence of suitable habitat within agency boundaries.

State and federal wildlife refuges are not shown on this table.

* Special-status plant species are abbreviated using 4 or 5 letter codes. The first two letters are the first letters of the genus name; the third and fourth letters are the first letters of the species name. When present, the fifth letter represents the first letter of a variety of subspecies name. Full species names are presented in Table B.

Table F: Special-Status Wildlife Species Known or Suspected in the Sacramento River Service Area.

Agencies	Special-Status Wildlife Species*																											
	VELB	DGGB	LCWSB	SAB	RHSW	CFHDB	RWSB	BLS	CTS	WPT	GGG	BE	AFP	ACG	CCR	SH	WYCB	CBR	WFI	GSC	MP	LBC	TB	SMHM	SS	BS		
Shasta Dam PUD	S									S		S	S			S			S	S	S	S	S					
Sacramento Valley Canals Agencies																												
Colusa Co WD	S									S	S	S	S			S			S	S	S	S	S					
Corning WD	S									S	S	S	S			S			S	S	S	S	S					
Dunnigan WD	S									S	S	S	S			S			S	S	S	S	S					
Glenn-Colusa WD	K(1)			S						S	S	S	S			S			S	S	S	S	K(1)			K(1)		
Glenn Co	S									S	S	S	S			K(1)			S	S	S	S	S					
Glide WD	S									S	S	S	S			S			S		S	S	S					
Holthouse WD	S									S	S	S	S			S			S	S	S	S						
Orland-Artois WD	S									S	S	S	S			S			S		S	S	S					
Rancho Saucos WD	S															S			S		S	S						
Tehama Ranch Mutual WD	S									S	S	S	S			S			S		S	S	S					
Yolo-Zamora WD	S									S	S	S	S			S			S		S	S	S					
Yolo-Solano CVP Water Service Coord. Group																												
Yolo Co FCWCD	K(1)									S	S	S	S			S			S		S	S	S					
Collinsville				S	S	S	S	S	S	S						S		S	S			S		K(1)	S			
Davis	S									S						K(3)				S	K(1)	K(1)	K(1)					
Dixon		S								S						S				S		K(1)	K(1)					
Fairfield		S					S			S						S						S						
Woodland	S									S	S					K(1)			K(1)	S	K(1)	K(1)	K(1)					
Rio Vista				K(1)	S	S		S	S	S						S		S	S			S	S	S	S			
Vacaville	S	S								S	S					S						S	S					
Suisun		S		S		S	S		S							S						S		S	S			
Benicia						S	S	S	S	S					K(1)	S		K(1)	K(1)			S	S	S	S			
Vallejo						S	S	S	S	S						S		S				S	S	K(1)	S			

Note: State and wildlife refuges not shown on this table.

Cell entries specify whether a species is known (K) or suspected (S) within boundaries of requesting agencies.

Known occurrences are based on NDDB (1987). Suspected occurrences are based on the species habitat associations and distributions, and the presence of suitable habitat within requesting agencies.

* VELB = Valley Elderberry Longhorn beetle; DGGB = Delta Green Ground Beetle; LCWSB = Leech's Chaetarthria Water Scavenger Beetle; SAB = Sacramento Anthicid Beetle; RHSW = Red-Headed Sphecid Wasp; CFHDB = Curved-Foot Hygrotritis Diving Beetle; RWSB = Ricker's Water Scavenger Beetle; BLS = Bridge's Land Snail; CTS = California Tiger Salamander; WPT = Western Pond Turtle; GGS = Giant Garter Snake; BE = Bald Eagle; APF = American Peregrine Falcon; ACG = Aleutian Canada Goose; CCR = California Clapper Rail; SH = Swainson's Hawk; WYCB = Western Yellow-Billed Cuckoo; CBR = California Black Rail; WFI = White-Faced Ibis; GSC = Greater Sandhill Crane; MP = Mountain Plover; LBC = Long-Billed Curlew; TB = Tricolored Blackbird; SMHM = Salt Marsh Harvest Mouse; SS = Suisun Shrew; BS = Bank Swallow

Table G: Acreages of Plant Communities in State and Federal Wildlife Refuges of the Sacramento River Service Area.

Agencies	Plant Communities *							
	Forested Riparian	Wetland (acres)				Terrestrial (acres)		Agricultural
		Freshwater and Alkaline Marsh	Open Water	Claypan Vernal Pool	Alkali Meadow	Grassland	Upland **	
Colusa NWR	K	2815	455	S	K	K	686	86
Delevan NWR	K	3723	53	K	K	K	1683	204
Gray Lodge WMA	K	3800	2200	K	K	K	1700	300
Sacramento NWR	K	6745	115	K	K	K	3629	287
Sutter NWR	K	1912	73	-	-	-	606	0

Note: Acreage figures based on USBR (1988). The acreage of riparian, vernal pool, alkali meadow and grassland habitats was not reported; the known (K) or suspected (S) presence of these habitats based on field observations.

* Habitats used by USBR (1988) have been converted as follows:
 permanent pond = open water; seasonal marsh = marsh,
 watergrass = marsh, rice or cereal grains = agricultural; upland = upland.

** Acreage reported under this category includes riparian, alkali meadow, grassland and vernal pool communities.

Table H: Special-Status Plant Species Known (K) or Suspected (S) in State and Federal Wildlife Refuges: Sacramento River Service Area.

Agencies	Special-Status Plant Species*																							
	ATCO	ATPA	ATPAS	CAFR	CHHO	CICR	COMOH	COPA	CRCR	FRPL	GRHE	HICA	JULEA	JULEL	LACO	LAJEJ	LELI	NECO	ORPI	ORTE	ORVI	ORCAS	PAAH	PLHY
Sacramento NWR	K	K	S			S	S		S	S		S	S	S	S		S	S	S	S		S	S	
Delevan NWR	S	K	S			S	K		S	S		S	S	S	S		S	S	S	S		S	S	
Colusa NWR	S	S	S			S	K		S			S	S	S		S	S	S	S		S	S		
Sutter NWR												K											S	
Gray Lodge WPA	K	S	S			S	S		S	S		S		S			S	S	S	S		S		

* Special-status plant species are abbreviated using 4 or 5 letter codes. The first two letters are the first letters of the genus name; the third and fourth letters are the first letters of the species name. When present, the fifth letter represents the first letter of a variety of subspecies name. Full species names are presented in Table B.

Known sitings are based upon field surveys and NDDB (1987), suspected presence based on the species habitat associations and distribution, and the presence of suitable habitat as reported in Table D.

Table 1: Special-Status Wildlife Species Known or Suspected from State and Federal Wildlife refuges:

Agencies	Special-Status Wildlife Species*																								
	VELB	DGGB	LCWSB	SAB	RHSW	CFHDB	RWSB	BLS	CTS	WPT	GGG	BE	AFP	ACG	CCR	SH	WYCB	CBR	WFI	GSC	MP	LBC	TB	SMHM	SS
Sacramento NWR	S									S	S	K	K	K		K	S		K	K		K	K		
Delevan NWR	S									S	S	K	K	K		K	S		K	S		K	K		
Colusa NWR	S									S	S	K	K	K		K	S		K	K		K	K		
Sutter NWR	S									S	S	K	K	K		K	S		K	S		K	K		
Gray Lodge WPA	S									S	K	K	K	S		K	S		K	K		K	K		

Note: Cell entries specify whether a species is known (K) or suspected (S) from a refuge.

Known species are based on field surveys and MDDB (1987). Suspected occurrences based on the species habitat associations and distributions, and the presence of suitable habitat on the refuge.

* VELB = Valley Elderberry Longhorn Beetle; DGGB = Delta Green Ground Beetle; LCWSB = Leech's Chaetarthria Water Scavenger Beetle; SAB = Sacramento Anthicid Beetle; RHSW = Red-Headed Sphecid Wasp; CFHDB = Curved-Foot Hygrotis Diving Beetle; RWSCB = Ricker's Water Scavenger Beetle; BLS = Bridge's Land Snail; CTS = California Tiger Salamander; WPT = Western Pond Turtle; GGS = Giant Garter Snake; BE = Bald Eagle; APF = American Peregrine Falcon; ACG = Aleutian Canada Goose; CCR = California Clapper Rail; SH = Swainson's Hawk; WYCB = Western Yellow-Billed Cuckoo; CBR = California Black Rail; WFI = White-Faced Ibis; GSC = Greater Sandhill Crane; MP = Mountain Plover; LBC = Long-Billed Curlew; TB = Tricolored Blackbird; SMHM = Salt Marsh Harvest Mouse; SS = Suisun Shrew

Table J: Potential Changes to Plant Communities in the Sacramento River Service Area: No-Action Alternatives.

Agencies	Plant Communities*						
	Riparian (linear feet)	Wetland (acres)					Terrestrial (acres)
		Freshwater & Alkaline Marsh	Open Water	Hardpan Vernal Pool**	Claypan Vernal Pool**	Alkali Meadow**	Grassland and/or Blue Oak Woodland ***
Shasta Dam PUD		----- NO CHANGES -----					
Sacramento Valley Canals Agencies		----- NO CHANGES -----					
Yolo-Solano CVP Water Service Coord. Group		----- NO CHANGES -----					
Yolo Co FCWCD		----- NO CHANGES -----					
Collinsville	132,000	629	7		P	P	8410
Davis	48,000	35	35		P	P	290
Dixon	20,000	0	10		P	P	70
Fairfield	81,500	45	47		P	P	8830
Woodland	3,000	0	140		P	P	110
Rio Vista	14,500	50	40		P	P	960
Vacaville	164,000	160	67		P	P	5330
Suisun	14,000	137	0		P	P	1330
Benicia	72,000	20	140		P	P	6880
Vallejo	102,000	22	28		P	P	6870

Note: State and federal wildlife refuges excluded.

* Riparian: Length of canals, creeks and rivers were measured from 7.5' USGS topographic maps and National Wetland Inventory maps (various dates).

This designation includes forest, scrub and herbaceous riparian communities.

Terrestrial: Areas measured from DWR Land Use Survey Maps and USGS topographic maps.

Marsh: Areas measured from palustrine emergent wetlands indicated on USFWS National Wetland Inventory Maps (various dates).

Hardpan Vernal Pool: Presence unsubstantiated, but suspected based on the presence of untilled grasslands in areas with relatively flat topography.

Claypan Vernal Pool: Presence unsubstantiated, but suspected based on the presence of untilled grasslands in areas with relatively flat topography and alkaline soils (Glenn, Solano, Yolo and Colusa Counties).

Alkali Meadow: Presence unsubstantiated, but suspected based on presence of seasonal wetlands identified on USFWS National Wetlands Inventory Maps (various dates) in areas with saline or alkaline soils.

** P = Potential impact, based on known or suspected presence of a community (see Table D).

*** Acreage of grassland and woodland not separable on DWR Land Use Survey Maps.

Table K: Potential Effects on Special-Status Plant Species of Land Conversion in the Sacramento River Service Area: No-Action.

Agencies	Special-Status Plant Species*																												
	ASCHL	ATCO	ATPA	ATPAS	CAFR	CHHO	CICR	CIHYH	COMOH	COPA	CRCR	FRPL	GRHE	HICA	JULEL	LACO	LAJEJ	LELI	LIMA	NECO	ORPI	ORTE	PAAH	PLHY	SASA	TRAM	TRCA	TUGR	TUMU
Shasta Dam PUD	----- NO CHANGES -----																												
Sacramento Valley Canals Agencies	----- NO CHANGES -----																												
Yolo-Solano CVP Water Service Coord. Group	----- NO CHANGES -----																												
Yolo Co FCWCD	----- NO CHANGES -----																												
Collinsville	K(1)	P	P	P		P		P	P		P	P	P	P	P	P	P	P	K(1)	P	P	P		P	P	P	P		P
Davis		P	P	P				P	P		P	P	P	P	P			P		P	P	P		P	P	P	P		P
Dixon		P	P	P				P	P		P	P	P	P	P			P		P	P	P		P	P	P	P		P
Fairfield		P	P	P		P		P	P		P	P	P	P	K(4)			P		P	P	P		P	P	P	P		P
Woodland		P	P	P				P	P		P	P	P	P	P			P		P	P	P		P	P	P	P		P
Rio Vista	K(1)	P	P	P		P		P	P		P	P	P	P	P	P	P	P	P	P	P	P		P	P	P	P		P
Vacaville		P	P	P				P	P		P	P	P	P	P			P		P	P	P		P	P	P	P		P
Suisun City	P	P	P	P		P	P	P	P						P	P	P	P							P	P	P		
Benicia		P	P	P				P	P						P		P								P	P	P		
Vallejo		P	P	P				P	P						P		P								P	P	P		

Note: State and federal wildlife refuges not included.

Cell entries specify whether a species is known (K) within the land conversion area or could potentially (P) occur within areas of potential land conversion. Numbers in parentheses refer to the number of populations known in potential land conversion areas. Species were identified with a potential designation if suitable habitat exists within land conversion areas.

Agencies with blank cells indicate that no new effects or impacts, beyond those identified for No-Action, are expected.

* Special-status plant species are abbreviated using 4 or 5 letter codes. The first two letters are the first letters of the genus name; the third and fourth letters are the first letters of the species name. When present, the fifth letter represents the first letter of a variety of subspecies name. Full species names are presented in Table B.

Table L: Potential Effects on Special-Status Wildlife Species of Land Conversions in the Sacramento River Service Area: No-Action Alternative.

Agencies	Special-Status Wildlife Species*																			
	VELB	DGGB	LCWSB	SAB	RHSW	CFHDB	RWSB	BLS	CTS	WPT	GGs	BE	AFP	ACG	CCR	SH	WYCB	CBR	WFI	GSC
Shasta Dam PUD	----- NO CHANGES -----																			
Sacramento Valley Canals Agencies	----- NO CHANGES -----																			
Yolo-Solano CVP Water Service Coord. Group	----- NO CHANGES -----																			
Yolo Co FCWCD	----- NO CHANGES -----																			
Collinsville				P	P		P	P	P							P		P	P	K(1)
Davis										P					K(3)			P	K(1)	K(1)
Dixon	P															P				
Fairfield	P									P						P				
Woodland										P	P				K(1)		K(1)	P	K(1)	K(1)
Rio Vista			K(1)	P	P		P	P	P						P		P	P		P
Vacaville	P								P	P					P				P	P
Suisun	P				P	P			P						P				P	P
Benicia					P	P	P	P	P					K(1)	P		K(1)	K(1)		P
Vallejo					P	P	P	P	P						P		P		P	P

Note: State and federal wildlife refuges not included

Cell entries specify whether a species is known (K) or could potentially (P) occur within proposed land conversions areas. Numbers in parentheses refer to the number of populations reported from proposed land conversion by NDDB (1987). Potential impacts based on the presence of suitable habitat in proposed land conversion areas.

* VELB = Valley Elderberry Longhorn beetle; DGGB = Delta Green Ground Beetle; LCWSB = Leech's Chaetarthria Water Scavenger Beetle; SAB = Sacramento Anthicid Beetle; RHSW = Red-Headed Sphecid Wasp; CFHDB = Curved-Foot Hygrotis Diving Beetle; RWSB = Ricker's Water Scavenger Beetle; BLS = Bridge's land Snail; CTS = California Tiger Salamander; WPT = Western Pond Turtle; GGS = Giant Garter Snake; BE = Bald Eagle; AFP = American Peregrine Falcon; ACG = Aleutian Canada Goose; CCR = California Clapper Rail; SH = Swainson's Hawk; WYCB = Western Yellow-Billed Cuckoo; CBR = California Black Rail; WFI = White-Faced Ibis; GSC = Greater Sandhill Crane; MP = Mountain Plover; LBC = Long-Billed Curlew; TB = Tricolored Blackbird; SMHM = Salt Marsh Harvest Mouse; SS = Suisun Shrew; BS = Bank Swallow

Table M: Potential Changes to Plant Communities on State and Federal Wildlife Refuges: No-Action and Alternative 2.

Agencies	Plant Communities *								
	Forested Riparian	Wetland (acres)				Terrestrial (acres)		Agricultural	Abandoned Lands ***
		Freshwater and Alkaline Marsh	Open Water	Claypan Vernal Pool	Alkali Meadow	Grassland	Upland **		
Colusa NWR	NC	-2815	-455	NC	NC	NC	NC	-86	+3,356
Delevan NWR	NC	-3723	-53	NC	NC	NC	NC	-204	+3,980
Gray Lodge WMA	NC	-800	-2200	NC	NC	NC	NC	-300	+4,800
Sacramento NWR	NC	-6745	-115	NC	NC	NC	NC	-287	+7,147
Sutter NWR	NC	-1912	-73				NC		+1,985

Note: Acreage figures based on USBR (1988). Acreage of riparian, vernal pool, alkali meadow and grassland habitats was not reported; the known (K) or suspected (S) occurrences based on field observations.

NC = no change.

* Habitats used by USBR (1988) have been converted as follows:

permanent pond = open water; seasonal marsh = marsh,
watergrass = marsh, rice or cereal grains = agricultural; upland = upland.

** The "upland" designation used by refuges includes riparian, alkali meadow, grassland and vernal pool communities.

*** Abandoned lands include areas that were formerly managed as freshwater marsh, open water, or irrigated agriculture.

Table N: Potential Effects on Special-Status Plant Species on State and Federal Wildlife Refuges:
No-Action and Alternative 2.

Agencies	Special-Status Plant Species*																							
	ATCO	ATPA	ATPAS	CAFR	CHHO	CICR	COMOH	COPA	CRCR	FRPL	GRHE	HICA	JULEA	JULEL	LACO	LAJEJ	LELI	NECO	ORPI	ORTE	ORVI	ORCAS	PAAH	PLHY
Sacramento NWR	P	P	P				P	P				P			P								P	
Delevan NWR	P	P	P				P	P				P			P								P	
Colusa NWR	P	P	P				P	K				P			P								P	
Sutter NWR												P											P	
Gray Lodge WPA	P	P	P				P	P				P											P	

Note: Known sitings are based upon field surveys and NDDB (1987), suspected presence based on the species habitat associations and distribution, and the presence of suitable habitat as reported in Table B.

No impacts anticipated for empty cells.

- * Special-status plant species are abbreviated using 4 or 5 letter codes. The first two letters are the first letters of the genus name; the third and fourth letters are the first letters of the species name. When present, the fifth letter represents the first letter of a variety of subspecies name. Full species names are presented in Table B.

Table N: Potential Effects on Special-Status Plant Species on State and Federal Wildlife Refuges:
No-Action and Alternative 2.

Table 0: Potential Effects on Special-Status Wildlife Species: No-Action and Alternative 2.

Agencies	Special-Status Wildlife Species*																								
	VELB	DGGB	LCWSB	SAB	RHSW	CFHDB	RWSB	BLS	CTS	WPT	GGG	BE	AFP	ACG	CCR	SH	WYCB	CBR	WFI	GSC	MP	LBC	TB	SMHM	SS
Sacramento NWR										P	P	P	P	P					P	P		P	P		
Delevan NWR										P	P	P	P	P					P	P		P	P		
Colusa NWR										P	P	P	P	P					P	P		P	P		
Sutter NWR										P	P	P	P	P					P	P		P	P		
Gray Lodge WPA										P	P	P	P	P					P	P		P	P		

Note: Cell entries specify whether a species is known (K) or suspected (S) from a refuge. Known species are based on field surveys and NDDB (1987). Suspected occurrences based on the species habitat associations and distributions, and the presence of suitable habitat on the refuge.

* VELB = Valley Elderberry Longhorn Beetle; DGGB = Delta Green Ground Beetle; LCWSB = Leech's Chaetarthria Water Scavenger Beetle; SAB = Sacramento Anthicid Beetle; RHSW = Red-Headed Sphecid Wasp; CFHDB = Curved-Foot Hygrotis Diving Beetle; RWSB = Rickecker's Water Scavenger Beetle; BLS = Brid CTS = California Tiger Salamander; WPT = Western Pond Turtle; GGS = Giant Garter Snake; BE = Bald Eagle; APF = American Peregrine Falcon; ACG = Aluetian Canada Goose; CCR = California Clapper Rail; SH = Swainson's Hawk; WYCB = Western Yellow-Billed Cuckoo; CBR = California Black Rail; WFI = White-Faced Ibis; GSC = Greater Sandhill Crane; MP = Mountain Plover; LBC = Long-Billed Curlew; TB = Tricolored Balckbird; SMHM = Salt Marsh Harvest Mouse; SS = Suisun Shrew

Table P: Potential Impacts to Plant Communities in the Sacramento River Service Area:
Alternative 1-Options A and B, and Alternative 3.

Agencies	Plant Communities*						Terrestrial (acres) Grassland and/or Blue Oak Woodland ***
	Riparian (linear feet)	Wetland (acres)					
		Freshwater & Alkaline Marsh	Open Water	Hardpan Vernal Pool**	Claypan Vernal Pool**	Alkali Meadow**	
Shasta Dam PUD	52,000	80	2	P			5600
Sacramento Valley Canals Agencies							
Colusa Co WD	93,000	100	1.5		P	P	1980
Corning WD	70,000	0	70	P			6720
Dunnigan WD	19,750	40	5		P	P	300
Glenn-Colusa ID	40,700	780	24		P	P	1625
Glenn Co	36,000	35	0		P	P	1390
Glide WD	38,500	2	0		P	P	1190
Holthouse WD	18,000	30	0		P	P	2500
Orland-Artois WD	5,000	5	0	P			45
Rancho Saucos WD	0	0	0				0
Tehama Ranch Mutual WD	6,000	2	2.5	P			330
Yolo-Zamora WD	0	0	0				0
Yolo-Solano CVP Water Service Coord. Group							
Yolo Co FCWCD	67,000	0	0		P	P	2230
Other Requesting Agencies		NO IMPACTS					

Note: State and federal wildlife refuges on separate table.

* Riparian: Length of canals, creeks and rivers were measured from 7.5 ' USGS topographic maps and National Wetland Inventory maps (various dates).

This designation includes forest, scrub and herbaceous riparian communities.

Terrestrial: Areas measured from DWR Land Use Survey Maps and USGS topographic maps.

Marsh: Areas measured from palustrine emergent wetlands indicated on USFWS National Wetland Inventory Maps (various dates).

Hardpan Vernal Pool: Presence unsubstantiated, but suspected based on the presence of untilled grasslands in areas with relatively flat topography.

Claypan Vernal Pool: Presence unsubstantiated, but suspected based on the presence of untilled grasslands in areas with relatively flat topography and alkaline soils (Glenn, Solano, Yolo and Colusa Counties).

Alkali Meadow: Presence unsubstantiated, but suspected based on presence of seasonal wetlands identified on USFWS National Wetlands Inventory Maps (various dates) in areas with saline or alkaline soils.

** P = Potential impact, based on known or suspected presence of a community.

*** Acreage of grassland and woodland not seperable on DWR Land Use Survey Maps.

Table Q: Potential Impacts to Special-Status Plant Species of the Sacramento River Area:
Alternative 1-Options A and B, and Alternative 3.

Agencies	Special-Status Plant Species*																			
	ASCHL	ATCO	ATPA	ATPAS	CAFR	CHHO	CICR	CIHYH	COMOH	COPA	CRCR	FRPL	GRHE	HICA	JULEL	LACO	LAJEJ	LELI	LIMA	NECO
Shasta Dam PUD					P	P				P		P			P			P	P	P
Sacramento Valley Canals Agencies																				
Colusa Co WD	P	P	P						P	P		P	P	P	P	P		P	P	P
Corning WD					P	P				P	P	P			P			P	P	P
Dunnigan WD	P	P	P						P	P		P	P	P	P	P		P	P	P
Glenn-Colusa ID	P	P	P						P	P		P	P	P	P	P		P	P	P
Glenn Co	P	P	P						P	P		P	P	P	P	P		P	P	P
Glide WD	P	P	P						P	P		P	P	P	P	P		P	P	P
Holthouse WD	P	P	P						P	P		P	P	P	P	P		P	P	P
Orland-Artois WD						P						P	P	P	P			P	P	P
Rancho Saucos WD																				
Tehama Ranch Mutual WD					P	P				P	P	P			P			P	P	P
Yolo-Zamora WD																				
Yolo-Solano CVP Water Service Coord. Group																				
Yolo Co FCWCD	P	P	P						P	P		P	P		P		P	P	P	P
Other Requesting Agencies	----- NO IMPACTS -----																			

Note: 1) Cell entries specify whether a species is known (K) within the land conversion area or could potentially (P) occur within areas of potential land conversion. Number in parentheses refer to the number of populations known in potential land conversion areas. Species were identified with a potential designation if suitable habitat exists within land conversion areas.

2) Agencies with blank cells indicate that no new effects or impacts, beyond those identified for No-Action, are expected.

* Special-status plant species are abbreviated using 4 or 5 letter codes. The first two letters are the first letters of the genus name; the third and fourth letters are the first letters of the species name. When present, the fifth letter represents the first letter of a variety or subspecies name. Full species names are presented in Table B.

Table R: Potential Impacts to Special-Status Wildlife Species in the Sacramento River Service Area:
Alternative 1-Options A and B, and Alternative 3.

Agencies	Special-Status Wildlife Species*																							
	VELB	DGGB	LCWSB	SAB	RHSW	CFHDB	RWSB	BLS	CTS	WPT	GGG	BE	APF	ACG	CCR	SH	WYCB	CBR	WFI	GSC	MP	LBC	TB	SMHM
Shasta Dam PUD										P		P	P			P			P	P		P	P	
Sacramento Valley Canals Agencies																								
Colusa Co WD										P	P	P	P			P			P	P		P	P	
Corning WD												P	P			P								
Dunnigan WD										P	P	P	P			P			P	P	P	P	P	
Glenn-Colusa WD	K(1)			P						P	P	P	P			P			P	P		P	K(1)	K(1)
Glenn Co										P	P	P	P			K(1)			P			P	P	
Glide WD										P	P	P	P			P			P					
Holthouse WD																P			P			P		
Orland-Artois WD																P							P	
Rancho Saucos WD																								
Tehama Ranch Mutual WD																P								
Yolo-Zamora WD																								
Yolo-Solano CVP Water Service Coord. Group																								
Yolo Co FCWCD	K(1)															P								
Other Requesting Agencies	----- NO IMPACTS -----																							

Note: State and federal wildlife refuges not included.

Cell entries specify whether a species is known (K) or could potentially occur (P) in proposed land conversion areas.

Number in parentheses that follow K show the number of populations reported from proposed land conversion areas.

Potential impacts to species based on the presence of suitable habitat in proposed land conversion areas.

- * VELB = Valley Elderberry Longhorn beetle; DGGB = Delta Green Ground Beetle; LCWSB = Leech's Chaetarthria Water Scavenger Beetle; SAB = Sacramento Anthicid Beetle; RHSW = Red-Headed Sphecid Wasp; CFHDB = Curved-Foot Hygrotis Diving Beetle; RWSB = Rickecker's Water Scavenger Beetle; BLS = Bridge's Land Snail; CTS = California Tiger Salamander; WPT = Western Pond Turtle; GGS = Giant Garter Snake; BE = Bald Eagle; APF = American Peregrine Falcon; ACG = Aleutian Canada Goose; CCR = California Clapper Rail; SH = Swainson's Hawk; WYCB = Western Yellow-Billed Cuckoo; CBR = California Black Rail; WFI = White-Faced Ibis; GSC = Greater Sandhill Crane; MP = Mountain Plover; LBC = Long-Billed Curlew; TB = Tricolored Blackbird; SMHM = Salt Marsh Harvest Mouse; SS = Suisun Shrew; BS = Bank Swallow

Table S: Acreage of Plant Communities on State and Federal Wildlife Refuges under Alternative 1--Option A, and Alternatives 3, 4C/D, and 6

Agencies	Plant Communities *								
	Forested Riparian	Wetland (acres)				Terrestrial (acres)		Agricultural	Abandoned lands ***
		Freshwater and Alkaline Marsh	Open Water	Claypan Vernal Pool	Alkali Meadow	Grassland	Upland **		
Colusa NWR	NC	+2815	+455	NC	NC	NC	NC	+86	-3356
Delevan NWR	NC	+3723	+53	NC	NC	NC	NC	+204	-3980
Gray Lodge WMA	NC	+2300	+2200	NC	NC	NC	NC	+300	-4800
Sacramento NWR	NC	+6745	+115	NC	NC	NC	NC	+287	-7147
Sutter NWR	NC	+1912	+73	NC	NC	NC	NC	0	-1985

Note: Acreage figures based on USBR (1988). Acreage of riparian, vernal pool, alkali meadow and grassland habitats was not reported; the known (K) or suspected (S) occurrences based on field observations.

* Habitats used by USBR (1988) have been converted as follows:
 permanent pond = open water; seasonal marsh = marsh,
 watergrass = marsh, rice or cereal grains = agricultural; upland = upland.

** The "upland" designation used by refuges includes riparian, alkali meadow, grassland and vernal pool communities.

*** Abandon lands include areas that were formerly managed as freshwater marsh, open water, or irrigated agriculture.

Table T: Potential Impacts (acreage changes compared to no action alternative) to Plant Communities on State and Federal Wildlife Refuges:
Alternative 1--Option B and Alternatives 4A/B, 5, and 7.

Agencies	Plant Communities *								Abandoned lands ***
	Forested Riparian	Wetland (acres)				Terrestrial (acres)		Agricultural	
		Freshwater and Alkaline Marsh	Open Water	Claypan Vernal Pool	Alkali Meadow	Grassland	Upland **		
Colusa NWR	P	+2935	+455	P	P	P	-120	P	-3356
Delevan NWR	P	+4646	+53	P	P	P	-923	P	-3980
Gray Lodge WMA	P	+3300	+2200	P	P	P	-1000	P	-4800
Sacramento NWR	P	+7145	+115	P	P	P	-500	P	-7147
Sutter NWR	P	+2092	+73	P	P	P	-180	P	-1985

Note: Acreage figures based on USBR (1988). Acreage of riparian, vernal pool, alkali meadow and grassland habitats was not reported.

NC = no change

P = potentially eliminated.

* Habitats used by USBR (1988) have been converted as follows:

permanent pond = open water; seasonal marsh = marsh,
watergrass = marsh, rice or cereal grains = agricultural; upland = upland.

** Acreage in the "upland" designation used by refuges includes riparian, alkali meadow, grassland and vernal pool communities.

*** Abandon lands include areas that were formerly managed as freshwater marsh, open water, or irrigated agriculture.

Table U: Potential Effects on Special-Status Plant Species: Alternative 1--Option B,
and Alternatives 4A/B, 5, and 7.

	Special-Status Plant Species*																														
Agencies	ATCO	ATPA	ATPAS	CAFR	CHHO	CICR	COMOH	COPA	CRCR	FRPL	GRHE	HICA	JULEA	JULEL	LACO	LAJEJ	LELI	NECO	ORPI	ORTE	ORVI	ORCAS	PAAH	PLHY	PSBA	SASA	TRAM	TRCA	TUGR	TUMU	
Sacramento NWR	P	P	P			P	P		P	P		P	P	P	P		P	P	P	P		P	P				P	P		P	P
Delevan NWR	P	K	P			P	K		P	P		P	P	P	P		P	P	P	P		P	P				P	P		P	P
Colusa NWR	P	P	P			P	K					P		P	P		P	P	P	P		P	P				P	P		P	P
Sutter NWR												P															P				
Gray Lodge WPA	P	P	P			P	P		P	P		P		P			P	P	P	P			P				P			P	P

Note: Known sitings are based upon field surveys and NDDB (1987), suspected presence based on the species habitat associations and distribution, and the presence of suitable habitat.

No impacts anticipated for empty cells.

* Special-status plant species are abbreviated using 4 or 5 letter codes.

The first two letters are the first letters of the genus name; the third and fourth letters are the first letters of the species name. When present, the fifth letter represents the first letter of a variety of subspecies name. Full species names are presented in Table B.

Table U: Potential Effects on Special-Status Plant Species: Alternative 1--Option B, and Alternatives 4A/B, 5, and 7.

Agencies	Special-Status Plant Species*																													
	ATCO	ATPA	ATPAS	CAFR	CHHO	CICR	COMOH	COPA	CRCR	FRPL	GRHE	HICA	JULEA	JULEL	LACO	LAJEJ	LELI	NECO	ORPI	ORTE	ORVI	ORCAS	PAAH	PLHY	PSBA	SASA	TRAM	TRCA	TUGR	TUMU
Sacramento NWR	P	P	P			P	P				P	P		P	P			P	P	P	P			P		P			P	P
Delevan NWR	P	K	P			P	K				P	P		P	P			P	P	P	P			P		P			P	P
Colusa NWR	P	P	P			P	K					P		P	P			P	P	P	P			P		P			P	P
Sutter NWR												P														P				
Gray Lodge WPA	P	P	P			P	P				P	P		P				P	P	P	P			P					P	P

Note: Known sitings are based upon field surveys and NDDDB (1987), suspected presence based on the species habitat associations and distribution, and the presence of suitable habitat.

No impacts anticipated for empty cells.

- * Special-status plant species are abbreviated using 4 or 5 letter codes. The first two letters are the first letters of the genus name; the third and fourth letters are the first letters of the species name. When present, the fifth letter represents the first letter of a variety of subspecies name. Full species names are presented in Table B.

Table V: Potential Impacts to Plant Communities in the Sacramento River Service Area:
Alternatives 2, 4A/B, and 6.

Agencies	Plant Communities*						
	Riparian (linear feet)	Wetland (acres)					Terrestrial (acres)
		Freshwater & Alkaline Marsh	Open Water	Hardpan Vernal Pool**	Claypan Vernal Pool**	Alkali Meadow**	Grassland and/or Blue Oak Woodland ***
Shasta Dam PUD	52,000	80	2	P			5600
Sacramento Valley Canals Agencies							
Colusa Co WD	93,000	100	1.5		P	P	1980
Corning WD	70,000	0	70	P			6720
Dunnigan WD	19,750	40	5		P	P	100-500
Glenn-Colusa ID	40,700	780	24		P	P	1625
Glenn Co	36,000	35	0		P	P	1390
Glide WD	38,500	2	0		P	P	1190
Holthouse WD	18,000	10-50	0		P	P	2500
Orland-Artois WD	5,000	5	0	P			45
Rancho Saucos WD	0	0	0				0
Tehama Ranch Mutual WD	6,000	2	2.5	P			330
Yolo-Zamora WD	0	0	0				0
Yolo-Solano CVP Water Service Coord. Group	----- NO IMPACTS -----						

Note: State and federal wildlife refuges on separate table.

* Riparian: Length of canals, creeks and rivers were measured from 7.5' USGS topographic maps and National Wetland Inventory maps (various dates).

This designation includes forest, scrub and herbaceous riparian communities.

Terrestrial: Areas measured from DWR Land Use Survey Maps and USGS topographic maps.

Marsh: Areas measured from palustrine emergent wetlands indicated on USFWS National Wetland Inventory Maps (various dates).
Hardpan Vernal Pool: Presence unsubstantiated, but suspected based on the presence of untilled grasslands in areas with relatively flat topography.

Claypan Vernal Pool: Presence unsubstantiated, but suspected based on the presence of untilled grasslands in areas with relatively flat topography and alkaline soils (Glenn, Solano, Yolo and Colusa Counties).

Alkali Meadow: Presence unsubstantiated, but suspected based on presence of seasonal wetlands identified on USFWS National Wetlands Inventory Maps (various dates) in areas with saline or alkaline soils.

** P = Potential impact, based on known or suspected presence of a community (see Table D).

*** Acreage of grassland and woodland not separable on DWR Land Use Survey Maps.

Table W: Potential Impacts to Special-Status Plant Species of the Sacramento River Area: Alternatives 2, 4A/B, and 6.

Agencies	Special-Status Plant Species*																						
	ASCHL	ATCO	ATPA	ATPAS	CAFR	CHHO	CICR	CIHYH	COMOH	COPA	CRCR	FRPL	GRHE	HICA	JULEL	LACO	LAJEJ	LELI	LIMA	NECO	ORPI	ORTE	PAAH
Shasta Dam PUD					P	P					P		P		P					P	P	P	P
Sacramento Valley Canals Agencies																							
Colusa Co WD	P	P	P						P	P		P	P	P	P	P		P		P	P	P	P
Corning WD					P	P					P	P	P		P				P	P	P		P
Dunnigan WD	P	P	P						P	P		P	P	P	P	P		P		P	P	P	P
Glenn-Colusa ID	P	P	P						P	P		P	P	P	P	P		P		P	P	P	P
Glenn Co	P	P	P						P	P		P	P	P	P	P		P		P	P	P	K(1)
Glide WD	P	P	P						P	P		P	P	P	P	P		P		P	P	P	P
Holthouse WD	P	P	P						P	P		P	P	P	P	P		P		P	P	P	P
Orland-Artois WD						P						P	P	P	P				P	P	P		P
Rancho Saucos WD																							
Tehama Ranch Mutual WD					P	P					P	P	P		P				P	P	P		P
Yolo-Zamora WD																							
Yolo-Solano CVP Water Service Coord. Group	----- NO IMPACTS -----																						

Note: State and federal wildlife refuges not included.

Cell entries specify whether a species is known (K) within the land conversion area or could potentially (P) occur within areas of potential land conversion. Number in parentheses refer to the number of populations known in potential land conversion areas. Species were identified with a potential designation if suitable habitat exists within land conversion areas.

Agencies with blank cells indicate that no new effects or impacts, beyond those identified No-Action, are expected.

- * Special-status plant species are abbreviated using 4 or 5 letter codes. The first two letters are the first letters of the genus name; the third and fourth letters are the first letters of the species name. When present, the fifth letter represents the first letter of a variety of subspecies name. Full species names are presented in Table B.

Table X: Potential Impacts to Special-Status Wildlife Species in the Sacramento River Service Area:
Alternatives 2, 4A/B, and 6.

Agencies	Special-Status Wildlife Species*																									
	VELB	DGGB	LCWSB	SAB	RHSW	CFHDB	RWSB	BLS	CTS	WPT	GGG	BE	AFP	ACG	CCR	SH	WYCB	CBR	WFI	GSC	MP	LBC	TB	SMHM	SS	BS
Shasta Dam PUD										P		P	P			P			P	P		P	P			
Sacramento Valley Canals Agencies																										
Colusa Co WD										P	P	P	P			P			P	P		P	P			
Corning WD												P	P			P										
Dunnigan WD										P	P	P	P			P			P	P	P	P	P			
Glenn-Colusa WD	K(1)			P						P	P	P	P			P			P	P		P	K(1)			K(1)
Glenn Co										P	P	P	P			K(1)			P			P	P			
Glide WD										P	P	P	P			P			P							
Holthouse WD																P			P			P				
Orland-Artois WD																P							P			
Rancho Saucos WD																										
Tehama Ranch Mutual WD																P										
Yolo-Zamora WD																										
Yolo-Solano CVP Water Service Coord. Group	----- NO IMPACTS -----																									

Note: State and federal wildlife refuges not included.

Cell entries specify whether a species is known (K) or could potentially occur (P) in proposed land conversion areas.

Number in parentheses that follow K show the number of populations reported from proposed land conversion areas.

Potential impacts to species based on the presence of suitable habitat in proposed land conversion areas.

- * VELB = Valley Elderberry Longhorn beetle; DGGB = Delta Green Ground Beetle; LCWSB = Leech's Chaetarthria Water Scavenger Beetle; SAB = Sacramento Anthicid Beetle; RHSW = Red-Headed Sphecid Wasp; CFHDB = Curved-Foot Hygrotis Diving Beetle; RWSB = Ricker's Water Scavenger Beetle; BLS = Bridge's land Snail; CTS = California Tiger Salamander; WPT = Western Pond Turtle; GGS = Giant Garter Snake; BE = Bald Eagle; APF = American Peregrine Falcon; ACG = Aleutian Canada Goose; CCR = California Clapper Rail; SH = Swainson's Hawk; WYCB = Western Yellow-Billed Cuckoo; CBR = California Black Rail; WFI = White-Faced Ibis; GSC = Greater Sandhill Crane; MP = Mountain Plover; LBC = Long-Billed Curlew; TB = Tricolored Blackbird; SMHM = Salt Marsh Harvest Mouse; SS = Suisun Shrew; BS = Bank Swallow

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